What is claimed is:

1.   A personal computer document with network-based functionality for use with a network-enabled personal computer application, comprising:

5   a.   a personal computer document capable of running on a standard personal computer application resident in computer memory; and

    b.   network-enabling objects coupled to said personal computer document, wherein said network-enabling objects are configured to provide network-based functionality to said personal computer document, wherein said network-enabling objects are not 10   interpretable by the standard personal computer application, said network-enabling objects being supported by network-functionality software.

2.   The personal computer document claim 1, further comprising linking code that enables said network-enabling objects to link to network-functionality code resident in the 15   computer memory, wherein said network-functionality code enables said network-enabling objects to deliver network-based functionality within said personal computer document.

3.   The personal computer document claim 2, wherein said network-enabling objects are embedded in said personal computer document.

4.   The personal computer document claim 1, further comprising linking code 20   in communication with said network-functionality code resident in the computer memory, wherein said linking code allows network-functionality code to function in combination with

said network-enabling objects to deliver network-based functionality within said personal

computer document.

    5.   A personal computer document with network-based functionality that may

be used with an network-enabled personal computer application, comprising:

5   a.   a wireframe, wherein the wireframe comprises data and scripting

code that remains static during run time of the personal computer application; and

          b.   native script code in communication with said wireframe.

    6.   A personal computer document with network-based functionality that may

10   be used with an network-enabled personal computer application, comprising:

          a.   a wireframe, wherein the wireframe includes data and scripting

code that remains static during run time of the personal computer application, said wireframe

comprising:

          i.   static data, and

15   ii.   query configurations; and

          b.   native script code in communication with said wireframe, said

native script code providing network-based functionality to said personal computer document.

    7.   A method of creating a personal computer document with network-based

20   functionality using an network-enabled personal computer application, comprising:

          a.   launching the network-enabled personal computer application;

          b.   opening a personal computer document;

563747_6

c.   instructing said network-enabled personal computer application to embed network-enabling objects for implementing network-based functionality into said personal computer document, wherein said embedded network-enabling objects are linked to a network-functionality software such that use of the embedded network-enabling objects are

5   supported by the network-functionality software ; and

d.   saving said personal computer document with embedded network-enabling objects therein.

8.   The method of claim 7, wherein said launching the network-enabled

10   personal computer application comprises:

a.   launching a personal computer application; and

b.   launching an network-functionality software, wherein said network-functionality software provides network-based functionality from said personal computer application, wherein said personal computer application does not have said network-

15   based functionality as standard features.

9.   A method of creating a personal computer document with network-based functionality using an network-enabled personal computer application, comprising:

a.   launching the network-enabled personal computer application;

20   b.   opening a personal computer document;

c.   instructing said network-enabled personal computer application to embed network-enabling objects for implementing network-based functionality into said personal computer document; and

88

d.   saving said personal computer document with embedded network-enabling objects therein.

10.   The method of claim 9, wherein said instructing of said network-enabled personal computer application to embed network-enabling objects for implementing network-based functionality comprises encrypting code for providing network-based functionality from said network-enabling objects.

11.   The method of claim 10, wherein said instructing said network-enabled personal computer application to embed network-enabling objects for implementing network-based functionality further comprises placing said code for providing network-based functionality from said network-enabling objects into a hidden area of the personal computer document after encrypting said code.

12.   A method of using a personal computer document with network-based functionality using an network-enabled personal computer application, comprising:

a.   launching the network-enabled personal computer application; and

b.   opening a personal computer document, said personal computer document having code for providing network-based functionality from said network-enabling objects in a hidden area, wherein said network-enabling objects provide network-based functionality to said personal computer documents.

13.   The method of claim 12, further comprising making changes to contents of said personal computer document after said opening.

89

14.   A method of using a personal computer document with network-based functionality using a network-enabled personal computer application, comprising:

      a.   launching the network-enabled personal computer application;

      b.   opening a personal computer document from within said personal computer application; and

      c.   activating embedded network-enabling objects for launching network-based functionality from within said personal computer document wherein said embedded network-enabling objects being capable of providing a continuous feed of network-based functionality to said personal computer document.

15.   A method of generating a personal computer document with network-based functionality embedded therein, said personal computer document using a network-enabled personal computer application, comprising:

      a.   launching the network-enabled personal computer application upon request from a user;

      b.   opening a personal computer document upon request from a user;

      c.   embedding network-enabling objects to implement network-based functionality into said personal computer document upon request from a user; and

      d.   saving said personal computer document with embedded network-enabling objects therein.

16.   The method of claim 15, wherein said embedding comprising:

90

a. reading network-functionality code from a native script code

storage area in said personal computer document,

b. encrypting network-functionality code for said network-enabling

objects, and

5 c. placing said encrypted code into a hidden area of personal

computer document to create packed encrypted code.

17. A method for generating a personal computer document with network-

based functionality with the use of a network-enabled personal computer application,

10 comprising:

a. launching the network-enabled personal computer application upon

request from a user;

b. opening a personal computer document upon request from said

user;

15 c. receiving instructions from said user to embed network-enabling

objects that provide network-based functionality into said personal computer document;

d. embedding network-enabling objects into said personal computer

document; and

e. saving said personal computer document with embedded network-

20 enabling objects therein.

18. A method of running a network-enabled personal computer application for

providing network-based functionality to a personal computer document, comprising:

563747_6

a. launching the network-enabled personal computer application upon

request from the user;

b. opening a personal computer document upon request from the user,

said personal computer document containing network-functionality code for network-enabling

5 objects that provide network-based functionality to said personal computer documents; and

c. unpacking said network-functionality code for network-enabling

objects embedded in said personal computer document.

19. The method of claim 18, wherein said network-functionality code is in

10 encrypted format, further comprising decrypting the network-functionality code for network-

enabling objects embedded in said personal computer document.

20. A method of allowing use of a personal computer document with network-

based functionality embedded therein in conjunction with a network-enabled personal computer

application, comprising:

15 a. launching the network-enabled personal computer application upon

request from a user;

b. opening a personal computer document from within said network-

enabled personal computer application upon request from said user;

c. changing the contents of said personal computer document upon

20 instruction from said user; and

d. saving said personal computer document.

92

21.   The method of claim 20, wherein said personal computer document

containing packed network-functionality code in encrypted format for network-enabling objects

that provide network-based functionality to said personal computer documents.

22.   The method of claim 21, further comprising unpacking said network-

5   functionality code for network-enabling objects in said personal computer document after said

opening a personal computer document.

23.   A method for loading a personal computer document with network-based

functionality with the use of a network-enabled personal computer application, comprising:

           a.   launching the network-enabled personal computer application upon

10   request from a user;

           b.   opening a personal computer document upon request from said

user;

           c.   receiving information regarding opening of personal computer

document by installed base services in said network-enabled personal computer application,

15   d.   checking by said base services to detect network-enabling objects

for providing network-based functionality;

           e.   reading of embedded network-functionality code within said

personal computer document to allow said network-enabling objects to launch network-based

functionality; and

20   f.   launching network-based functionality based on instructions

included in said embedded network-functionality code.

24. A method for transmitting a personal computer document with network-based functionality from a central server for use with an network-enabled personal computer application by a remote user, comprising:

    a.   establishing a connection with the remote user by a server, wherein said central server has the personal computer document with network-based functionality stored therein;

    b.   receiving a request for said personal computer document with network-based functionality; and

    c.   serving said personal computer document with network-based functionality.

25. The method of claim 24, further comprising authenticating the remote user after said establishing said connection with the remote user.

26. The method of claim 25, wherein said authenticating comprises:

    a.   receiving identification information from said remote user; and

    b.   determining the login status of said remote user.

27. A method for transmitting a personal computer document with network-based functionality for use with a network-enabled personal computer application by a remote user, comprising:

    a.   connecting the remote user to a central server, wherein said central server has the personal computer document with network-based functionality stored therein;

94

b.   authenticating the remote user;

c.   establishing a secure connection with said remote user;

d.   receiving a request to download said personal computer document

with network-based functionality from said remote user; and

5   e.   transmitting the personal computer document with network-based

functionality to the remote user.

28.   A method for transmitting a personal computer document with network-

based functionality for use with a network-enabled personal computer application by a remote

10   client, comprising:

a.   receiving a login request from said client;

b.   receiving a request from said remote client at a web server for

downloading said personal computer document with network-based functionality;

c.   transmitting said request for said personal computer document

15   from said web server to a web server extender;

d.   processing by said web server extender of custom request

handling;

e.   receiving authentication information from said remote client by

said web server extender; and

20   f.   serving requested personal computer document with network-

based functionality to said remote client.

29.   The method of claim 28, wherein said custom request handling is authenticating the remote client.

30.   The method of claim 28, wherein said custom request handling is deciding

5   the version of the personal computer document to be served to said remote client.

31.   A personal computer document having network-based functionality that may be used with a network-enabled personal computer application, comprising:

        a.   means for displaying a user-readable representation of data capable

10   of running on a standard personal computer application resident in computer memory; and

        b.   means for providing network-based functionality to said personal computer document, said means for providing network-based functionality coupled to said means for displaying a user-readable representation of data.

15   32.   The personal computer document of claim 31, further comprising means for linking said means for providing network-based functionality to means for displaying a user-readable representation of data, wherein said linking means enables said means for providing network-based functionality to deliver network-based functionality within a personal computer document.

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33.   A computer device comprising:

        a computer readable medium having computer readable code means embodied therein, said computer readable code means comprising means for displaying a user-

96

readable representation of data having means for providing network-based functionality to said

displaying means, said computer readable code further comprising means for linking said means

for providing network-based functionality to said displaying means for delivering network-based

functionality.

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34. A personal computer document having network-based functionality and

embedded network-functionality code that may be used with a personal computer application,

comprising:

a. a personal computer document capable of running on a standard

10 personal computer application resident in computer memory; and

b. network-enabling objects coupled to said personal computer

document, wherein said network-enabling objects are configured to provide network-based

functionality to said personal computer document, wherein said network-enabling objects are not

interpretable by the standard personal computer application.

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35. The personal computer document of claim 34, further comprising linking

code that enables said network-enabling objects to link to network-functionality software

resident in the computer memory, wherein said network-functionality software enables said

network-enabling objects to deliver network-based functionality within said personal computer

20 document.

36. The personal computer document of claim 35, wherein said network-

enabling objects are embedded in said personal computer document.

563747_6

37.   The personal computer document claim 34, further comprising linking

code in communication with said network-functionality software resident in the computer

memory, wherein said linking code allows network-functionality software to function in

5   combination with said network-enabling objects to deliver network-based functionality within

said personal computer document.

38.   A personal computer document with network-based functionality that may

be used with a personal computer application, comprising:

10   a.   a wireframe, wherein said wireframe includes data and scripting

code that remains static during run time of the personal computer application, said wireframe

comprising:

                i.   a native user interface,

                ii.   native content visible to a user by said native user interface,

15   iii.   embedded network-enabling objects to provide network-

based functionality from within said personal computer document, said embedded network-

enabling objects in communication with said native user interface, and

                iv.   code for providing functionality to said embedded network-

enabling objects, said code capable of allowing said network-enabling objects to launch the

20   network-based functionality from within the personal computer document; and

                b.   native script code in communication with said wireframe, said

native script code providing functionality to native functions of said personal computer

document.

39.   A personal computer document having network-based functionality for use with a network-enabled personal computer application, comprising:

a.   a wireframe, wherein said wireframe comprises static data and

5   static scripting code, wherein the scripting code maintains its state during run time of the personal computer application;

b.   population data, wherein said population data is dynamically generated to populate the wireframe during run time of the personal computer application, wherein said population data compliments the scripting code of the wireframe; and

10   c.   form data, wherein said form data is specified and manipulated by a user during run time of a personal computer application for interaction with the wireframe and other parts of the personal computer document.

40.   The personal computer document of claim 39, wherein said wireframe

15   comprises network-enabling network-enabling objects to provide network-based functionality to said personal computer document.

41.   The personal computer document of claim 38, wherein said form data is transmitted to a server that provides feed for the network-based functionality.

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42.   A method of creating a personal computer document having network-based functionality and embedded network-functionality code, comprising:

a.   launching a network-enabled personal computer application;

99

b.   opening a personal computer document;

c.   embedding network-enabling objects that implement network-based functionality into said personal computer document;

d.   embedding network-functionality code in said personal computer

5   document, wherein said network-functionality code provides functionality to said embedded network-enabling objects; and

e.   saving said personal computer document with said embedded network-enabling objects and said embedded network-functionality code therein.

10   43.   The method of claim 42, wherein launching the network-enabled personal computer application comprises:

a.   launching a personal computer application; and

b.   launching network-functionality software, wherein said network-functionality software is linked to said personal computer application such that the network-

15   functionality software adds network-based functionality to said personal computer application.

44.   A method of creating a personal computer document having network-based functionality and embedded network-functionality code, comprising:

a.   launching a personal computer application;

20   b.   opening a personal computer document;

c.   embedding network-enabling objects that implement network-based functionality into said personal computer document, said embedding network-enabling objects comprising:

100

i.   encrypting code for said network-enabling objects, and

ii.   placing said encrypted code for said network-enabling

objects into a hidden area of personal computer document;

d.   embedding network-functionality code in said personal computer

5   document, wherein said network-functionality code provides functionality to said embedded

network-enabling objects, said embedding network-functionality code comprising:

i.   encrypting network-functionality code, and

ii.   placing a part of said encrypted network-functionality code

into said hidden area of personal computer document; and

10   e.   saving said personal computer document with said embedded

network-enabling objects and said embedded network-functionality code therein.

45.   A method for generating a personal computer document having network-

based functionality and embedded network-functionality code, comprising:

15   a.   launching a network-enabled personal computer application upon

request from a user;

b.   providing a personal computer document upon request from a user;

c.   embedding network-enabling objects to implement network-based

functionality into said personal computer document by coupling said network-enabling objects to

20   said personal computer document;

d.   embedding network-functionality code into said personal computer

document, wherein said network-functionality code provides functionality to said embedded

network-enabling objects; and

e.   saving said personal computer document with said embedded

network-enabling objects and said embedded network-functionality code therein.

46.   A method of generating a personal computer document with network-

5   based functionality and a network-functionality code embedded therein, said personal computer

document using a network-enabled personal computer application running therewith,

comprising:

a.   launching the network-enabled personal computer application upon

request from a user;

10   b.   opening a personal computer document upon request from a user;

c.   embedding network-enabling objects to implement network-based

functionality into said personal computer document upon request from a user, said embedding

comprising:

i.   reading code from a native script code storage area in said

15   personal computer document, and

ii.   encrypting code for providing network-based functionality

in said personal computer document;

d.   embedding network-functionality code into said personal computer

document, wherein said network-functionality code provides functionality to said embedded

20   network-enabling objects, said embedding of network-functionality code comprising:

i.   reading code from a native script code storage area in said

personal computer document; and

102

e.   saving said personal computer document with embedded network-

enabling objects therein.

47.   The method of claim 46, wherein said embedding network-functionality

5   code into said personal computer document further comprises encrypting said network-

functionality code after said reading code from said native script code storage area.

48.   The method of claim 47, wherein said embedding network-functionality

code into said personal computer document further comprises placing a part of said encrypted

10   network-functionality code and said network-enabling objects into a hidden area of personal

computer document to create packed encrypted network-functionality code after said encrypting

said network-functionality code.

49.   A method of allowing use of a personal computer document with network-

15   based functionality in conjunction with a personal computer application, comprising:

a.   launching the personal computer application upon request from a

user;

b.   opening a personal computer document from within said personal

computer application upon request from said user, said personal computer document containing

20   network-functionality code and network-enabling objects that provide network-based

functionality to said personal computer document;

c.   unpacking said network-functionality code in said personal

computer document;

103

d.   changing the contents of said personal computer document upon

instruction from said user; and

e.   saving said personal computer document.

5   50.   The method of claim 49, where said unpacking of network-functionality

code comprises activating code for unpacking to run in a PCA extender of the network-

functionality code.

51.   The method of claim 50, where said unpacking of network-functionality

10   further comprises decrypting and unpacking said encrypted network-functionality code and code

for network-enabling objects in said personal computer document upon deployment of executor

code in said native script engine after said activating code.

52.   A method for transmitting a personal computer document having network-

15   based functionality and embedded network-functionality code by a remote user, comprising:

a.   connecting the remote user to a central server, wherein said central

server has access to the personal computer document having network-based functionality and

embedded network-functionality code;

b.   authenticating the identity of the remote user; and

20   c.   transmitting the personal computer document with network-based

functionality to the remote user.

104

53.   A method for transmitting a personal computer document with network-based functionality embedded therein for use with a personal computer application by a remote client, comprising:

      a.   receiving a login request from said client;

5   b.   receiving a request from said remote client for downloading said personal computer document with network-based functionality;

      c.   transmitting said request for said personal computer document from a web server to a web server extender;

      d.   processing by said web server extender of custom request

10 handling;

      e.   receiving authentication information from said remote client by said web server extender; and

      f.   serving requested personal computer document with network-based functionality to said remote client, said personal computer document comprising network-functionality code and network-enabling objects for launching said network-based functionality

15 from within said personal computer document.

54.   The method of claim 53, wherein said custom request handling is authenticating the remote client.

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55.   The method of claim 53, wherein said custom request handling is deciding the version of the personal computer document to be served to said remote client.

563747_6

56.   A personal computer document with network-based functionality and

having embedded network-functionality code that may be used with a personal computer

application, comprising:

    a.   means for displaying a user-readable representation of data capable

5   of running on a standard computer application resident in computer memory; and

    b.   means for providing network-based functionality to said personal

computer document, said means for providing network-based functionality coupled to said

display means; and

    c.   means for linking said means for providing network-based

10   functionality to said display means, wherein said linking means enables said means for providing

network-based functionality to deliver network-based functionality within said personal

computer document.

57.   A computer device comprising:

    a computer readable medium having computer readable code means

15   embodied therein, said computer readable code means comprising means for displaying a user-

readable representation of data having means for providing network-based functionality to said

display means, said computer readable code further comprising means for providing support to

said network-based functionality means and linking said means for providing network-based

20   functionality to said displaying means for delivering network-based functionality.

58.   A system for proving network-based functionality to a personal computer

application, comprising:

a.   an interface for communicating with said personal computer application;

b.   a library comprising a plurality of user tools, said user tools exposed to a user through a user interface, said user tools configured to provide various network-

5   based functionalities within a personal computer document; and

c.   a PCA extender in communication with said user tools, said PCA extender configured to provide:

i.   network-functionality services, and

ii.   application services.

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59.   A system for proving network-based functionality to a personal computer application, comprising:

a.   an interface for communicating with said personal computer application;

15   b.   a library comprising a plurality of developer tools, said developer tools exposed to a user through a user interface exposed in said personal computer application, said developer tools configured to provide various network-based functionalities to a personal computer document; and

c.   a PCA extender in communication with said user tools, said PCA

20   extender configured to provide:

i.   network-functionality services, and

ii.   application services.

563747_6

60.   The system of claim 59, wherein said developer tools allow creation of a

personal computer document with network-enabling objects embedded therein by providing

ready-made code for embedding the network-based functionality by making the appropriate

selection of the user interface of the developer tools.

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61.   A system for proving network-based functionality to a personal computer

application, comprising:

a.   an interface for communicating with said personal computer

application;

10   b.   a library comprising a plurality of user tools, said user tools

exposed to a user through a user interface, said user tools configured to provide various network-

based functionalities within a personal computer document;

c.   a library comprising a plurality of developer tools, said developer

tools exposed to a user through said user interface exposed in said personal computer

15   application, said developer tools configured to provide various network-based functionalities

within a personal computer document; and

d.   a PCA extender in communication with said user tools, said PCA

extender configured to provide:

i.   network-functionality services, and

20   ii.   application services.

62.   An network-enabled personal computer application for allowing users to

create personal computer documents having network-base functionality, comprising:

108

a.   native personal computer application code;

b.   native object model in communication with said native personal

computer application code;

c.   native script engine in communication with said native personal

5   computer application code, wherein said native script engine is capable of providing

functionality to macros; and

d.   a network-functionality package for providing network-based

functionality within the personal computer application.

10   63.   A network-enabled personal computer application for allowing users to

create personal computer documents with network-based functionality, comprising:

a.   native personal computer application code;

b.   a native object model in communication with said native personal

computer application code;

15   c.   a native script engine in communication with said native personal

computer application code, wherein said native script engine provides functionality to macros;

and

d.   an add-in package, said add-in package comprising:

i.   an interface for communicating with said personal

20   computer application;

ii.   a library comprising a plurality of user tools, said user tools

exposed to a user through a user interface, said user tools configured to provide various network-

based functionalities within a personal computer document;

iii.   a library comprising a plurality of developer tools, said

developer tools exposed to the user through said user interface, said developer tools configured

to enable the creation of a personal computer document with network-based functionalities; and

iv.   a PCA extender in communication with said user tools, said

5   PCA extender configured to provide network-functionality services and application services.

64.   A method of augmenting a personal computer application with network-

based functionality, comprising:

a.   authoring custom network-based functionality in a compatible

10   platform, said functionality designed to add network-based operations to the personal computer

application;

b.   linking said authored network-based functionality to said personal

computer application for allowing users to access and launch network-enabling objects from

within said personal computer application; and

15   c.   deploying said network-based functionality, wherein said

deployment allows activation of said network-enabling objects from within said personal

computer application by said users.

65.   A method of augmenting a personal computer application, comprising:

20   a.   authoring software code for network-based functionality in a

platform configured for use with a suitable operating system, said code for network-based

functionality adding capability for network-based functionality to an existing personal computer

application;

110

b.   linking said software code for network-based functionality to said

personal computer application for allowing users to launch and access network-based

functionality from within said personal computer application; and

c.   deploying said code for network-based functionality by packaging

5   into appropriate segments of client architecture, wherein said deployment enables use of said

network-based functionality from within said personal computer application.

66.   The method of claim 65, further comprising obtaining a network-

functionality software before said authoring, wherein said network-functionality software

10   facilitates said authoring of code for network-based functionality within the personal computer

application.

67.   The method of claim 66, wherein said network-functionality software

includes a developer tool set for enabling development of an Internet-application within the

15   personal computer application by providing the requisite means for providing creating code

necessary for network-enabling objects, said network-enabling objects being placed in the

Internet-application.

68.   The method of claim 67, wherein the Internet-application is a personal

20   computer document with network-enabling objects embedded therein.

69.   A method of augmenting a personal computer application, comprising:

111

a. launching a compatible platform to allow authoring by a user of custom network-based functionality, said network-based functionality designed to add network-based operations to the personal computer application;

b. linking network-enabling objects to said personal computer

5 application for allowing users to access and launch network-based functionality from within said personal computer application, said linking taking place upon instruction from said user; and

c. deploying said network-based functionality upon instruction from said user, wherein said deployment allows activation of said network-enabling objects from within said personal computer application by said users.

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70. A method for transmitting a software package to augment a personal computer application with network-based functionality, comprising:

a. connecting a remote user to a central server, wherein said central server has access to the software package for augmenting the personal computer application; and

15 · b. transmitting the software package to said remote user.

71. The method of claim 70, further comprising authenticating the identity of said remote user after said connecting said remote user to the central server.

20 72. A method for transmitting a software package to augment a personal computer application with network-based functionality, comprising:

a. receiving a login request from a remote client;

112

b. receiving a request from said remote client to download said software package from a web server;

c. providing security authentication services to verify and authenticate said remote client by said web server;

5   d. receiving authentication information from said remote client by web server; and

e. serving requested software package to said remote client, said software package comprising network-functionality software for augmenting a personal computer application for launching network-based functionality from therein and embedding

10   network-enabling objects for network-based functionality in personal computer document.

73. A method of augmenting a personal computer application with a plurality of network-based services, comprising:

a. obtaining network-functionality software, said network-

15   functionality software including a library of routines to provide network-based functionality within a personal computer document opened in the personal computer application; and

b. installing base services from said install package in said obtained network-functionality software.

20   74. A method of augmenting a personal computer application with a plurality of network-based user tools, comprising:

113

a. obtaining a user tools software package, said user tools software package containing a library of files enabling use of network-based functionality within a personal computer document opened in the personal computer application; and

b. installing said user tools on a local client from said user tools

5 software package.

75. A method for creating a network-enabling object to provide network-based functionality to a personal computer document, comprising:

a. receiving an information model, wherein said information model

10 provides information for conforming the created object therewith;

b. developing the network-enabling object to provide network-based functionality;

c. conforming said network-enabling object with said information model;

15 d. placing said network-enabling object in an appropriate location of a system architecture for use in providing network-based functionality to a personal computer document.

76. A method for creating a network-enabling object to provide network-

20 based functionality, comprising:

a) creating a new COM control;

b) importing a requisite service library;

114

c)   authoring custom functionality as a component, wherein said

functionality is configured to enable access to network-based functionality; and

d)   registering said component as a COM component of the requisite

service library.

5

77.   A method for creating a network-enabling object to provide network-

based functionality, comprising:

a.   creating a new COM control;

b.   importing a requisite service library;

10   c.   receiving an information model, wherein said information model

provides information for conforming the created network-enabling object therewith;

d.   authoring custom functionality as a component, wherein said

functionality is configured to enable access to network-based functionality;

e.   registering said component as a COM component of the requisite

15   service library; and

f.   placing said network-enabling object in an appropriate location of

a system architecture.

78.   A method for creating a network-enabling object to provide network-

20   based functionality, comprising:

a.   creating a new COM component for a new custom type;

b.   registering said COM component of a requisite service provider

with said custom type;

c.   authoring new network-based functionality;

d.   importing necessary service libraries from said requisite service

provider; and

e.   authoring new functionality to work in conjunction with new

5   functionality created during authoring of said new network-based functionality.

79.   A method for creating a network-enabling object to provide network-

based functionality, comprising:

a)   selecting the requisite network-enabling object from a library of

10   network-enabling objects;

b)   downloading a selected network-enabling object onto a personal

computer;

c)   installing the downloaded network-enabling object;

d)   launching a network-enabled personal computer application; and

15   e)   adjusting settings for the installed network-enabling object.

80.   The method of claim 79, wherein said library comprises a plurality of files

accessible from at least one of a web site, FTP site and CD-ROM.

20   81.   The method of claim 79, further comprising opening a personal computer

document after said launching the network-enabled personal computer application.

116

82.   The method of claim 81, wherein the network-enabling object is embedded in said personal computer document after said opening of the personal computer application.

5   83.   The method of claim 79, wherein the network-enabling object is embedded within said personal computer application to augment said personal computer application during said installing.

84.   The method of claim 79, wherein the network-enabling object is placed on

10   said personal computer as a distinct icon for launching said network-based functionality from any software on the system during said installing.

85.   A method for creating a network-enabling object to provide network-based functionality to a personal computer document, comprising:

15   a)   selecting the network-enabling object from a library of network-enabling objects, wherein said library comprises a plurality of files accessible from at least one of a web site, FTP site and CD-ROM;

b)   downloading the selected network-enabling object onto a personal computer;

20   c)   installing the downloaded network-enabling object on said personal computer;

d)   launching a network-enabled personal computer application;

e)   opening a personal computer document;

117

f)   embedding said network-enabling object in said personal computer document; and

g)   adjusting properties of the network-enabling object.

5   86.   A method for downloading network-enabling network-enabling objects to a personal computer, comprising:

a.   connecting said client to a server, said server having a library of network-enabling objects stored therein;

b.   exposing the library of network-enabling objects to said client;

10   c.   receiving request from said client for downloading a network-enabling object from said library of network-enabling objects; and

d.   transmitting the network-enabling object to said client.

87.   The method of claim 86, further comprising authenticating said remote

15   client after said receiving of login request from the remote client.

88.   A method for downloading network-enabling objects to a personal computer, comprising:

a.   receiving a login request from a remote client;

20   b.   exposing a library of network-enabling objects to said client;

c.   receiving request from said client for downloading network-enabling objects from said library of network-enabling objects;

d.   transmitting said request to a web server extender;

118

563747_6

e. providing security authentication services to verify and authenticate said remote client by said web server extender; and

f. transmitting the requested network-enabling object to said client.

5 89. A method for downloading network-enabling objects to a personal computer, comprising:

a. receiving a login request from the remote client;

b. authenticating said remote client;

c. establishing a secure connection with said client; and

10 d. transmitting the requested network-enabling object to said client.

90. A method for downloading network-enabling objects to a personal computer, comprising:

a. providing a secure connection to said client;

15 b. exposing a library of network-enabling objects to said client;

c. receiving request from said client for downloading a network-enabling object from said library of network-enabling objects; and

d. transmitting the network-enabling object to said client.

20 91. A method for downloading network-enabling objects to a personal computer, comprising:

a. providing a secure connection to said client;

b. exposing a library of network-enabling objects to said client;

119

c.   receiving request from said client for downloading a network-enabling object from said library of network-enabling objects;

d.   transmitting said request to a web server extender;

e.   providing security authentication services to verify and

5   authenticate said remote client by said web server extender; and

f.   transmitting the requested network-enabling object to said client.

92.   A network-enabling object for providing network-based functionality on a personal computer, comprising:

10   a.   code for initializing the network-enabling object;

b.   code for launching network-based functionality in communication with said code for initializing the network-enabling object; and

c.   a user interface for allowing the viewing of the network-enabling object in an appropriate location of a system architecture, said code for exposing the object to a

15   user interface in communication with said code for launching network-based functionality.

93.   The network-enabling object of claim 92, further comprising code for registering said component as an COM component of the requisite service library, said code for registering said component as an COM component in communication with said code for

20   initializing the network-enabling object.

94.   A network-enabling object for providing network-based functionality on a personal computer, comprising:

120

a. initialization code for initializing and launching the network-based

functionality from the network-enabling object; and

b. run-time code for providing the network-based functionality in

real-time from the network-enabling object.

5

95. The network-enabling object of claim 94, wherein during run-time of said

network-based functionality said initialization code remains dormant.

96. A personal computer application having network-based functionalities,

10 comprising:

native code for the personal computer application, said native code

provided with network-based functionality and non-network-based functionality for providing

non-network functionalities and network-base functionalities, wherein said network-based

functionality provides network-based operations to the personal computer application, and said

15 non-network-based functionality provides non-network-based functionality to the personal

computer application.

97. A personal computer application having network-based functionalities,

comprising:

20 a. a user interface;

b. code for providing network-based functionalities from within said

personal computer application, said network-based functionality exposed to users through said

interface;

121

c.   code for providing non-network functionalities from within said

personal computer application, said non-network functionality exposed to users through said

interface; and

d.   native code for the personal computer application, said native code

5   embedded with said network-based functionality and said non-network-based functionality for

providing non-network functionalities and network-base functionalities.

98.   The personal computer application of claim 97, wherein said code for

providing network-based functionalities further comprises a base services package in

10   communication with user tools, said base services package configured to provide network-

functionality services and application services.

99.   The personal computer application of claim 98, wherein said code for ,

providing network-based functionalities further comprises a library comprising a plurality of user

15   tools, said user tools exposed to a user through a user interface, said user tools configured to

provide various network-based functionalities within a personal computer document.

100.   The personal computer application of claim 99, wherein said code for

providing network-based functionalities further comprises a library comprising a plurality of

20   developer tools, said developer tools exposed to a user through said user interface, said developer

tools configured to provide various network-based functionalities within a personal computer

application for creating the personal computer document having network-based functionality.

122

101.   A personal computer application having network-based functionalities,

comprising:

a.   native personal computer application code;

b.   a native object model in communication with said native personal

computer application code;

c.   a native script engine in communication with said native personal

computer application code, wherein said native script engine provides functionality to native

scripts;

d.   a user interface, said user interface allowing a user to activate said

network-based functionalities and said non-network functionalities;

e.   code for providing network-based functionalities from within said

personal computer application; and

f.   code for providing non-network functionalities from within said

personal computer application.

102.   The personal computer application of claim 101, wherein said network-

based functionality is exposed to users through said user interface.

103.   The personal computer application of claim 102, wherein said said non-

network functionality exposed to users through said user interface.

104.   The personal computer application of claim 103, wherein said code for

providing network-based functionalities comprises a base extender, said base extender

comprising:

  a. code for document packaging;

5 , b. code for caching of personal computer documents;

  c. code for data initialization; and

  d. code for command routing.

105.   The personal computer application of claim 101, wherein said code for

10 providing network-based functionalities comprises a library of user tools, said library comprising

of various individual functionalities of use to an end-user.

106.   The personal computer application of claim 105, wherein said user tools

are exposed to said user through said user interface.

15

107.   The personal computer application of claim 106, wherein said code for

providing network-based functionalities comprises a library of developer tools, said library

comprising various tools necessary to build and deploy a personal computer document with

network-based functionality.

20

108.   The personal computer application of claim 107, wherein said developer

tools are exposed to said user through said user interface, said developer tools providing users

with the ability to embed code for network-based functionality within said personal computer

document by making the appropriate selection on said user interface.

109. The personal computer application of claim 108, wherein said code for

5 providing network-based functionalities comprises a library of network-connectivity tools, said

library comprising:

      a.   code for providing XML handling;

      b.   code for session management;

      c.   code for security;

10   d.   code for event handling;

      e.   code for location handling; and

      f.   code for query routing.

110. A method of creating a personal computer application having network-

15 based functionalities, comprising:

      authoring native code for the personal computer application, said native

code configured to provide:

      i.   non-network functionalities, and

      ii.   network-based functionalities, said network-based

20 functionalities including the ability to access a network.

111. The method of claim 110, wherein said native code comprises:

      a.   a native object model, and

563747_6

b. a native script engine in communication with said native object

model, wherein said native script engine provides functionality to scripts.

112. A method of creating a personal computer application having network-

5 based functionalities, comprising:

a. authoring custom network-based functionality in a compatible

platform for providing network-based operations to the personal computer application;

b. authoring custom non-network-based functionality in a compatible

platform; and

10 c. authoring native code for the personal computer application, said

native code embedded with said network-based functionality and said non-network-based

functionality for providing non-network functionalities and network-base functionalities.

113. A method of creating a personal computer application having network-

15 based functionalities, comprising:

authoring native code for the personal computer application, said native

code configured to provide non-network functionality and network-based functionalities in a

platform configured for use with a suitable operating system, said network-based functionality

being capable of providing real-time access to dynamic from a network.

20

114. A method of creating a personal computer application having network-

based functionalities, comprising:

563747_6

a. authoring custom network-based functionality in a platform

configured for use with a suitable operating system for providing network-based operations to

the personal computer application;

b. authoring custom non-network-based functionality in a platform

5   configured for use with said operating system; and

c. authoring native code for the personal computer application, said

native code embedded with said network-based functionality and said non-network-based

·functionality for providing non-network functionalities and network-base functionalities from

within said personal computer application.

10

115. A method of creating a personal computer application having network-

based functionalities, comprising:

a. authoring code for network-based functionality in a compatible

platform for providing network-based operations to the personal computer application;

15   b. authoring code for non-network-based functionality in a

compatible platform, said code for non-network-based functionality comprising:

i. a native object model, and

ii. a native script engine; and

c. authoring native code for the personal computer application, said

20   native code embedded with said network-based functionality and said non-network-based

functionality for providing non-network functionalities and network-base functionalities.

127

116.   The method of claim 115, wherein said code for network-based

functionality comprises a library of user tools, said user tools configured to provide:

a.   page scraping; and

b.   stock quotes in real time.

5

117.   The method of claim 116, wherein said code for network-based

functionality comprises a PCA extender in communication with said user tools, said base

extender configured to provide:

a.   document packaging;

10   b.   caching;

c.   data initialization; and

d.   command routing.

118.   The method of claim 117, wherein said code for network-based

15   functionality comprises a library of developer tools, said developer tools configured to provide:

a.   layout utilities;

b.   forms management;

c.   query management;

d.   data modeler; and

20   e.   packaging assistant.

119.   A method of creating a personal computer application having network-

based functionalities, comprising:

128

a. receiving code in a compatible platform for custom network-based functionality to provide network-based operations to the personal computer application;

b. receiving code in a compatible platform for custom non-network-based functionality to provide non-network-based operations to the personal computer

5 application; and

c. receiving native code for the personal computer application in a compatible platform, wherein said native code is embedded with said network-based functionality and said non-network-based functionality.

10 120. A method of creating a personal computer application having network-based functionalities, comprising:

a. receiving code in a compatible platform for custom network-based functionality to provide network-based operations to the personal computer application;

b. receiving code in a compatible platform for custom non-network-

15 based functionality to provide non-network-based operations to the personal computer application, said code for non-network-based functionality comprising:

i. a native object model, and

ii. a native script engine, wherein said native script engine provides functionality to scripts; and

20 c. receiving native code for the personal computer application, said native code embedded with said network-based functionality and said non-network-based functionality.

121. A system for providing a combination of network-based services and non-network based services within a personal computer application, comprising:

(a)   a first component that is interpretable by a standard personal computer application;

5   (b)   a second component that is capable of providing real-time access to network-based services, said second component in communication with said first component, said second component not being interpretable by the personal computer application; and

(c)   code associated with said network-enabled personal computer application for interpreting said second component for allowing access to said network-based

10   services within the network-enabled personal computer application.

122. The system of claim 121, wherein said network-based services are received and transmitted over a network.

15   123. The system of claim 122, wherein said network-based services provide dynamic network-based content to a personal computer document, which is opened within the personal computer application.

124. The system of claim 123, wherein said dynamic network-based content is

20   accessible in real-time from within the personal computer document opened in the personal computer application.

125. The system of claim 124, wherein said code comprises:

130

(a)   extender routines to support base functionality of said second

component, said extender routines being external to the personal computer application; and

(b)   developer tools, said developer tools providing the capability for

developing personal computer documents with network-enabling objects embedded therein.

5

126.   The system of claim 125, wherein said developer tools enable creation of

Internet applications using said personal computer application, by providing means for

embedding network-enabling objects in a personal computer document.

10   127.   The system of claim 126, wherein said developer tools are accessible from

within the personal computer application.

128.   The system of claim 126, wherein said developer tools comprises a user

interface to expose said developer tools to a user.

15

129.   The system of claim 128, wherein said user interface is a toolbar that

exposes a plurality of tool sets to the user.

130.   The system of claim 128, wherein said user interface is exposed to the user

20   within the personal computer application, said user interface appearing in addition to a standard

toolbar of the personal computer application.

131.   The system of claim 126, wherein said extender routines are provided as a COM component.

132.   The system of claim 126, wherein the personal computer application is a spreadsheet application.

133.   The system of claim 126, wherein the personal computer application is a word processing application.

134.   A system for providing a combination of network-based services and non-network based services within a personal computer application, comprising:

(a)   a first component that is interpretable by a standard personal computer application;

(b)   a second component that is capable of providing access to network-based services over a network in communication with said first component, wherein said network-based services provide dynamic network-based content to a personal computer document open within the personal computer application, said second component not being interpretable by the personal computer application;

(c)   extender routines to support base functionality of said second component, said extender routines capable of interpreting said second component for allowing access to said network-based services within the network-enabled personal computer application; and

563747_6

(d)   developer tools, said developer tools providing the capability for

developing personal computer documents with network-enabling objects embedded therein, said

developer tools accessible within the personal computer application.

5   135.   The system of claim 134, wherein said extender routines are external to

the personal computer application.

136.   A system for providing a combination of network-based services and non-

network based services within a personal computer application, comprising:

10   (a)   a first component that is capable of providing access to network-

based services, said network-based services being received from a network for utilization within

the personal computer application, said first component providing real-time content from the

network; and

(b)   a second component for providing non-network-based services

15   within said personal computer application, said second component coupled to said first

component.

137.   The system of claim 136, wherein said second component is capable of

providing static content along with the network-based services provided by said first component.

20

138.   The system of claim 137, wherein said network-based services provide

dynamic network-based content to a personal computer document, which is opened within the

personal computer application.

139.   The system of claim 138, wherein said dynamic network-based content is updated in real-time within the personal computer document opened in the personal computer application, along with static data therein.

5

140.   The system of claim 139, wherein said first component comprises developer tools, said developer tools providing the capability for developing personal computer documents with network-enabling objects embedded therein.

10   141.   The system of claim 140, wherein said developer tools enable creation of Internet applications using said personal computer application, by providing means for embedding network-enabling objects in a personal computer document.

142.   The system of claim 141, wherein said developer tools comprises a user interface to expose said developer tools to a user.

15

143.   The system of claim 142, wherein said user interface is a toolbar that exposes a plurality of tool sets to the user within the personal computer application.

20   144.   A system for providing a combination of network-based services and non-network based services within a network-enabled personal computer application, comprising:

(a)   means for providing non-network based functionality;

134

(b)   means for providing real-time access to network-based services, said means for providing real-time access to network-based services in communication with said means for providing non-network based functionality; and

(c)   means for interpreting means for providing real-time access to

5   network-based services, said means for interpreting associated with said network-enabled personal computer application for allowing access to said network-based services within the network-enabled personal computer application.

145.   A system for providing a combination of network-based services and non-

10   network based services within a personal computer application, comprising:

(a)   a means for providing non-network based functionality that is interpretable by a standard personal computer application;

(b)   a means for providing access to network-based services over a network in communication with said means for providing non-network based functionality, said

15   means for providing access to network-based services not being interpretable by the personal computer application;

(c)   means to support base functionality of said means for providing access to network-based services, wherein said means to support base functionality is capable of interpreting said means for providing access to network-based services; and

20   (d)   means for providing the capability to developing personal computer documents with network-enabling objects embedded therein, said means for providing the capability to developing personal computer documents accessible from within the personal computer application.

135

146.   A system for providing a combination of network-based services and non-network based services within a personal computer application, comprising:

(a)   a means for providing access to network-based services over a

5   network for utilization within the personal computer application, said means for providing access to network-based services providing real-time content from the network; and

(b)   a means for providing non-network-based services within said personal computer application, said second component coupled to said first component.

10   147.   A method for providing network-based functionality to a personal computer document embedded with network-enabling objects, comprising:

a.   receiving a request from the remote client to receive network-based functionality, said remote client having requisite network-enabling software stored locally; and

15   b.   providing said client with desired network-based functionality.

148.   The method of claim 147, further comprising authenticating said remote client after said receiving request from the remote client.

20   149.   The method of claim 148, further comprising providing a secure connection to said client by the server after said authenticating said remote client.

136

150.   A method for providing network-based functionality to a personal

computer document embedded with network-enabling objects, said personal computer document

open in a personal computer application, comprising:

a.   receiving a request from the remote client to receive network-

5   based functionality, said remote client having requisite network-enabling software stored locally;

b.   authenticating said remote client;

c.   providing a secure connection to said client; and

d.   transmitting said network-based functionality through said

network-enabling software to said remote client.

10

151.   The method of claim 150, wherein said network-enabling software is

being executed on said remote client along with said personal computer application.

152.   A method for providing network-based functionality to a personal

15   computer document embedded with network-enabling objects, said personal computer document

being executed on a remote client, the remote client connecting to a server providing support for

the network-based functionality, comprising:

a.   receiving a login request from the remote client;

b.   receiving a request for network-enhanced functionality from said

20   remote client;

c.   transmitting said request to a web server extender;

d.   providing security authentication services to verify and

authenticate said remote client by said web server extender; and

e.   transmitting requested network-enhanced functionality to said

remote client.

153.   A method for providing network-based functionality to a personal

5   computer document embedded with network-enabling objects, comprising:

a.   receiving a login request from the remote client;

b.   authenticating said remote client;

c.   establishing a secure connection with said client;

d.   receiving information from said client to determine whether said

10   remote client has requisite network-enabling software stored locally; and

e.   providing said client with desired network-based functionality

through said network-enabling software.

154.   A method for providing network-based functionality to a personal

15   computer having a network-enabling object, comprising:

a.   providing a secure connection to said client;

b.   transmitting a query to said remote client to determine whether

said remote client has network-enabling software stored locally;

c.   transmitting requisite network-enabling software to said remote

20   client; and

d.   providing said client with desired network-based functionality

through said network-enabling software.

138

155.   A method for providing network-based functionality to a personal computer having a network-enabling object, comprising:

a.   providing a secure connection to said client;

b.   receiving a request for network-enhanced functionality from said
5   remote client;

c.   transmitting said request to a web server extender; and

d.   transmitting requested network-enhanced functionality to said
remote client.

10   156.   A method for receiving network-based functionality in a personal computer document embedded with network-enabling objects, said personal computer document being stored on a remote client, the remote client connecting to a server providing support for the network-based functionality, comprising:

a.   sending a login request to a server providing network-based
15   functionality;

b.   providing authenticating information;

c.   establishing a secure connection to said server;

d.   sending a request for appropriate network-based functionality to
said server; and

20   e.   receiving feed for requested network-based functionality.

157.   A method for receiving network-based functionality in a personal computer document embedded with network-enabling objects, said personal computer document

being stored on a remote client, the remote client connecting to a server providing support for the

network-based functionality, comprising:

   a.   sending a login request to a server providing network-based

functionality;

5   b.   providing authenticating information;

   c.   establishing a secure connection to said server;

   d.   receiving requisite network-enabling software from said server;

   e.   sending a request for appropriate network-based functionality; and

   f.   receiving feed for requested network-based functionality.

10

   158.   A method for receiving network-based functionality to a personal

computer document embedded with network-enabling objects, said personal computer document

being stored on a remote client, the remote client connecting to a server providing support for the

network-based functionality, comprising:

15   a.   sending a login request to said server;

   b.   sending a request for network-enhanced functionality to said

server;

   c.   receiving security authentication services from said server for

verification and authentication;

20   d.   transmitting a query to said remote client to determine whether

said remote client has network-enabling software stored locally; and

   e.   receiving requested network-enhanced functionality.

563747_6

159.   A system for providing network-based functionality to personal computer

documents embedded with network-enabling objects, said personal computer documents being

stored on a remote client, the remote client connecting to a server providing support for the

network-based functionality, comprising:

5   a.   a memory unit;

               b.   a processor disposed in communication with said memory unit,

said processor configured to:

                       i.   receive a login request from a remote client,

                       ii.   authenticate said remote client,

10   iii.   connect said client to said server, and

                       iv.   provide said client with desired network-based

functionality.

160.   A system for providing network-based functionality to personal computer

15 documents embedded with network-enabling objects, comprising:

               a.   a memory unit;

               b.   a processor disposed in communication with said memory unit,

said processor configured to:

                       i.   receive a login request from a remote client,

20   ii.   authenticate said remote client,

                       iii.   establish connection with said client, and

                       iv.   provide said client with feed for desired network-based

functionality.